

## Description

The type 671 is a compact valve with many features which make it ideal for pharmaceutical and bio-processing applications.

## Sanitary Diaphragm Valve

manually operated

### Standard Features

- Compact design
- Glass filled polypropylene bonnet
- Visual position indicator
- FDA compliant diaphragms
- 316L stainless steel body
- Triclamp<sup>®</sup>, O.D. Tubing, ISO, and DIN end connections
- Sizes 1/2" - 4"

### Available Options

#### Special connections

Hose barb, tube extensions, Swagelok<sup>®</sup>, Cajon VCR<sup>®</sup>, Ingold<sup>®</sup>, and others available upon request.

#### Fabrications

Cluster valve assemblies for both horizontal and vertical orientations, and custom fabrications upon request.

#### Materials

AL-6XN<sup>®</sup>, Hastelloy<sup>®</sup>, Titanium<sup>®</sup>, and others available upon request.

#### Bonnet Options

- "V" notch vent plug
- Extended handwheel
- Locking device
- Electrical position indicator

### Typical Applications

- Pharmaceutical manufacturing
- Bioprocessing
- Cosmetic
- Brewery Service
- Food and Beverage
- Semiconductor
- High Purity Chemicals



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# Type 671

# Type 671 Technical Data

Size (Inches)	Nominal diameter (mm)	Working pressure (psi)	Body configuration (D = straight through)	C <sub>v</sub> value (gpm)		Weight (lbs)
				ISO	O.D. Tubing	
1/2	15	0 - 150	D	-	-	1.5
3/4	20	0 - 150	D	5.4	5.4	1.5
1	25	0 - 150	D	14.3	14.3	2.0
1 1/4	32	0 - 150	D	-	-	3.3
1 1/2	40	0 - 150	D	34.5	34.5	3.5
2	50	0 - 150	D	59.2	59.2	6.6
2 1/2	65	0 - 150	D	80.1	80.1	20.9
3	80	0 - 150	D	101.8	101.8	22.0
4	100	0 - 150	D	220	220	33.1

All pressures are gauge pressures when applied upstream. The C<sub>v</sub> values vary due to differences in valve construction (i.e., Port size, body material, diaphragm material, etc.)

## Working Medium

All inert and corrosive liquids and gases, subject to correct choice of body and diaphragm materials.

Working Pressure: 0 - 150 psi

Max. Permissible temperature of working medium:

176°F (80°C) (Depending on diaphragm material)

In biotechnological installations, depending on diaphragm and frequency of cycles, the max. Temperature is 266° F (130°C).

The valve will seal against flow in either direction up to a working pressure of 150 psi (gauge pressure).

## Body Configuration

Tank bottom valve body  
2-way valve body

## Ref.no.

B  
D

## Diaphragm material

2nd generation, modified Teflon® with Ethylene-propylene backing 2-piece molded closed

TFM/EPDM

## Ref.no.

5E

2nd generation, modified Teflon® with Silicone backing 2-piece molded closed

TFM/VMQ

5S

Ethylene-propylene Rubber for saturated steam max 302° F

EPDM

13

Ethylene-propylene Rubber for saturated steam max 302° F

EPDM

16

2nd generation, modified Teflon® with Ethylene-propylene backing (2-piece)

TFM/EPDM

50

2nd generation, modified Teflon® with Ethylene-propylene backing

TFM/EPDM

52

All diaphragms listed conform to the FDA code of Federal Regulations paragraph 177.2600 of section 21.

## Connection

DIN  
DIN 11850/Series 1  
DIN 11850/Series 2  
DIN 11850/Series 3  
Butt weld OD tubing  
Sizes 1/4-3/8" 20 gauge .035" wall  
Sizes 1/2-3" 16 gauge .065" wall  
Sizes 4" 14 gauge .083" wall  
ISO  
Schedule 10 pipe  
Tri-clamp®  
O.D. Tubing by Triclamp®  
Extended O.D. Tubing  
Extended O.D. Tubing by Triclamp®

## Ref.no.

0  
16  
17  
18  
59  
  
60  
63  
80  
93  
94  
95

## Control function

Manually operated

## Ref.no.

0

## Body material

### Investment cast body

Stainless steel 316 L  $\pm$  1.4435 (BN2) Fe < 0.5%  
Stainless steel 1.4539 (UNS N 08904)

## Ref.no.

32  
33

### Forged Body

Stainless steel 316 L  $\pm$  1.4435 (ASTM A 182)  
Stainless steel 316 L  $\pm$  1.4435 (BN2) Fe < 0.5%

40  
42

### Machined block

Stainless steel 316 L  $\pm$  1.4435 (ASTMA 479)

41

### Special versions

(Consult factory for special material reference numbers)

91

## Surface finish

$\mu$ -in.	BPE Surface Designation	Ra Average [Note (1)]		Ra Max		Ref.no.	
		$\mu$ -in.	$\mu$ m	$\mu$ -in.	$\mu$ m		
32	Mechanical					3	
25	Mechanical	SFV3	25	0.625	30	0.750	1502
20	E-pol	SFV6	20	0.500	25	0.625	1508
20	Mechanical	SFV2	20	0.500	25	0.625	1507
15	E-pol	SFV5	15	0.375	20	0.500	1537
11	Mechanical	SFV1	15	0.375	20	0.500	1536
10	E-pol	SFV4	10	0.250	15	0.375	1516

GENERAL NOTE: All Ra readings are taken across the grain.

NOTE: (1) The average Ra is derived from two readings taken at different locations.

## Special Versions

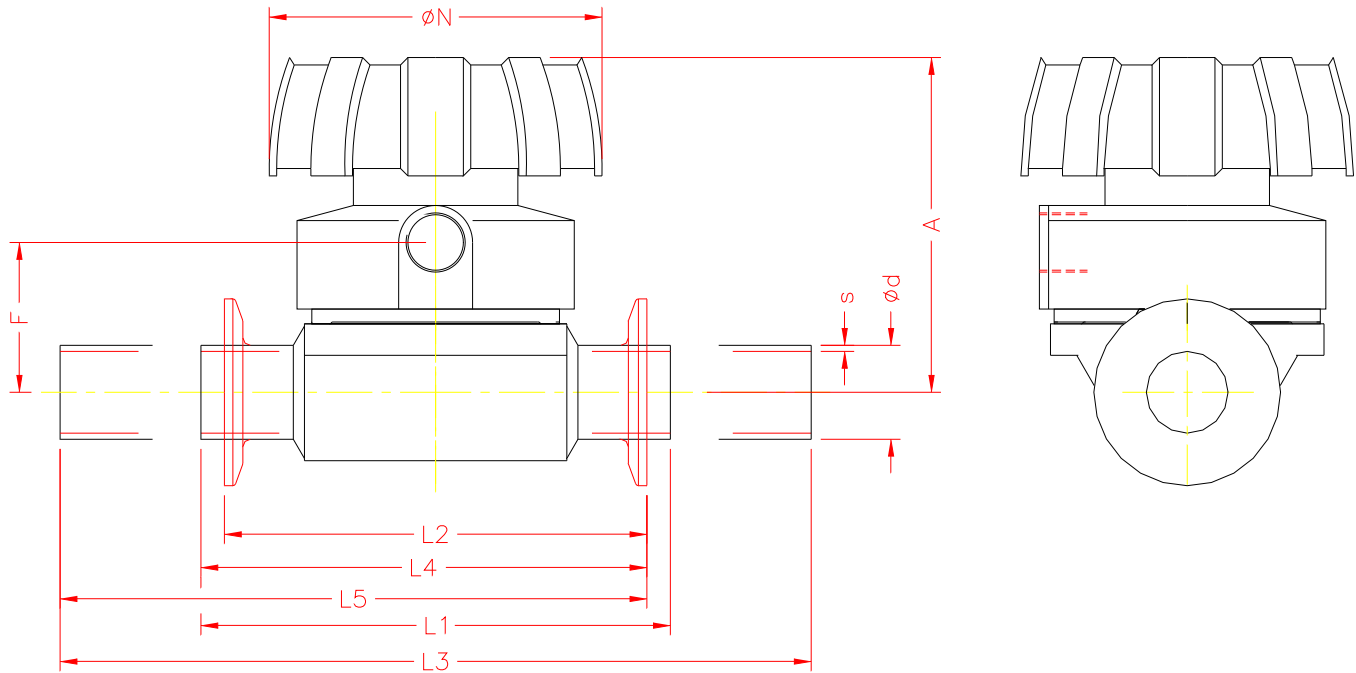
Special versions  
Locking device

## Ref.no.

UXXXX  
1155

Order Example	-671	015	D	80	40	13	0					1507
Type of valve	-671											
Size DN		015										
Body configuration			D									
Connection (valve body)				80								
Body material					40							
Diaphragm material						13						
Control function							0					
Actuator size												
Locking device												
Pipe main size												
Pipe main connection												
Surface finish												1507
Special versions (XXXX)												

# Type 671 Dimensional Data



## Take Out Dimensions for Standard Connections

Size	DN	Units	Con. Ref. No.		(59)	(80)	(94)	(93)	(95)
			Ød	s	L1	L2	L3	L4	L5
1/2	15	mm	12.70	1.65	120.00	101.60	184.15	110.80	142.88
		in	0.500	0.065	4.724	4.000	7.250	4.362	5.625
3/4	20	mm	19.05	1.65	120.00	101.60	190.50	110.80	146.05
		in	0.750	0.065	4.724	4.000	7.500	4.362	5.750
1	25	mm	25.40	1.65	120.00	114.30	203.20	117.15	158.75
		in	1.000	0.065	4.724	4.500	8.000	4.612	6.250
1 1/2	40	mm	38.10	1.65	153.00	139.70	234.95	146.35	187.33
		in	1.500	0.065	6.024	5.500	9.250	5.762	7.375
2	50	mm	50.80	1.65	173.00	158.75	266.70	165.88	212.73
		in	2.000	0.065	6.811	6.250	10.500	6.531	8.375
2 1/2	65	mm	63.50	1.65	216.00	193.68	292.10	204.84	242.89
		in	2.500	0.065	8.504	7.625	11.500	8.065	9.563
3	80	mm	76.20	1.65	254.00	222.25	333.38	238.13	277.82
		in	3.000	0.065	10.000	8.750	13.125	9.375	10.938
4	100	mm	101.60	2.10	305.00	292.10	406.40	298.55	349.25
		in	4.000	0.083	12.008	11.500	16.000	11.754	13.750

- L1 = Connection Code 59 = Standard butt-weld
- L2 = Connection Code 80 = Standard clamp
- L3 = Connection Code 94 = Standard butt-weld extension (AWF)
- L4 = Connection Code 93 = Standard clamp X butt-weld
- L5 = Connection Code 95 = Standard clamp X butt-weld extension (AWF)

## Drain Angles

Size	DN	Degrees
1/2	15	46°
3/4	20	55°
1	25	60°
1 1/4	32	65°
1 1/2	40	65°
2	50	70°
2 1/2	65	70°
3	80	70°
4	100	70°

Drain angles are for BS O.D. Tubing only.

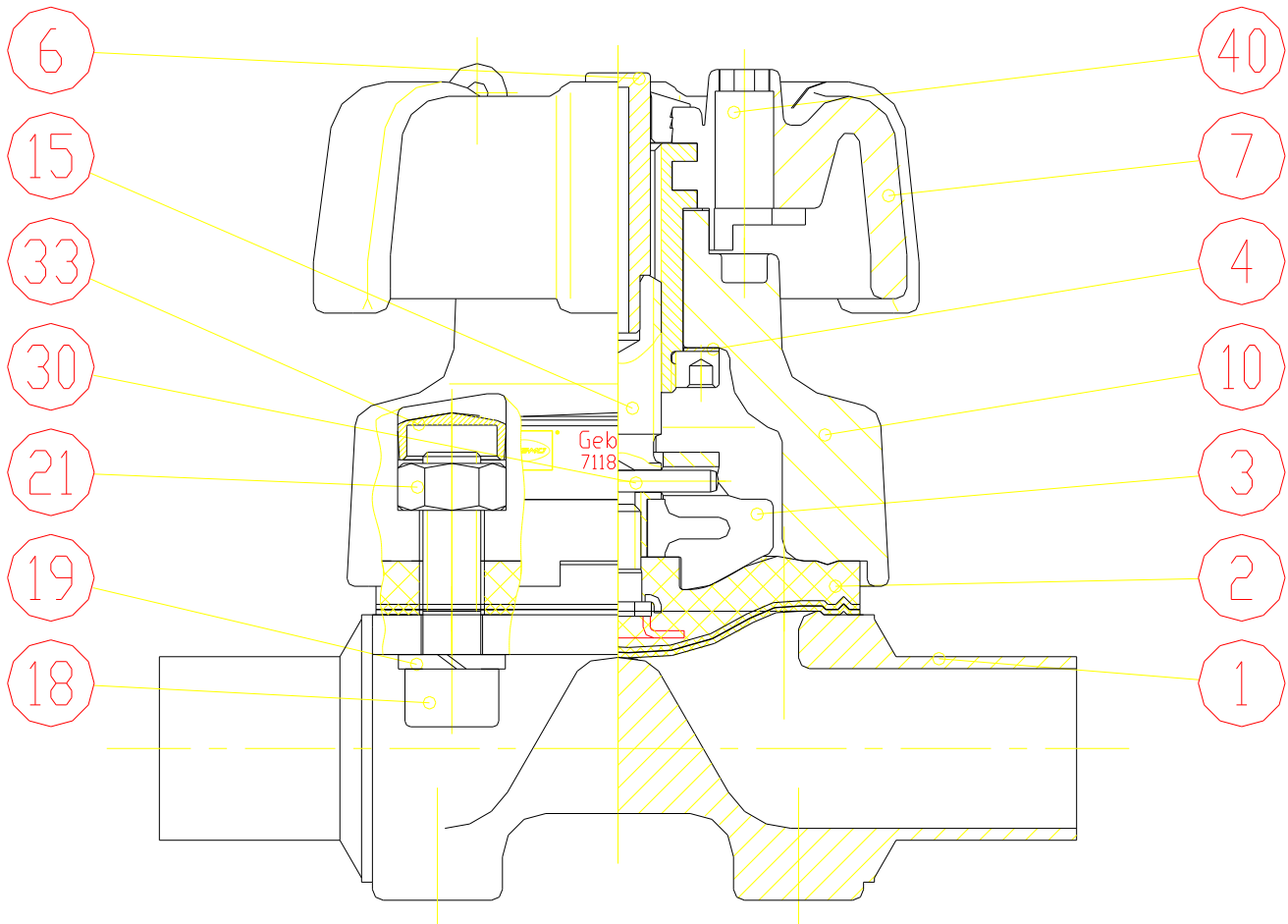
## Optional Spigot Dimensions

Connection Ref. No.		60	0	16	17	18	37							
Size	DN	L <sub>1</sub>	d	s	d	s	d	s	d	s	d	s		
1/2"	15	120	21,3	1,6	18	1,5	18	1	19	1,5	20	2	-	-
3/4"	20	120	26,9	1,6	22	1,5	22	1	23	1,5	24	2	-	-
1"	25	120	33,7	2,0	28	1,5	28	1	29	1,5	30	2	25,0	1,2
1 1/4"	32	153	42,4	2,0	34	1,5	34	1	35	1,5	36	2	33,7	1,2
1 1/2"	40	153	48,3	2,0	40	1,5	40	1	41	1,5	42	2	38,0	1,2
2"	50	173	60,3	2,3	52	1,5	52	1	53	1,5	54	2	51,0	1,2
2 1/2"	65	216	76,1	2,6	-	-	70,2	2	-	-	-	-	63,5	1,6
3"	80	254	88,9	2,6	-	-	85	2	-	-	-	-	76,1	1,6
4"	100	305	114,3	2,6	-	-	104	2	-	-	-	-	101,6	2,0

## Dimensions

Size	DN	Units	A	ØN	F	G
1/2	15	mm	99.0	90.0	37.0	M16 x 1
		in	3.90	3.54	1.46	
3/4	20	mm	99.0	90.0	37.0	M16 x 1
		in	3.90	3.54	1.46	
1	25	mm	99.0	90.0	37.0	M16 x 1
		in	3.90	3.54	1.46	
1 1/4	32	mm	120.0	114.0	49.0	M16 x 1
		in	4.72	4.49	1.93	
1 1/2	40	mm	120.0	114.0	49.0	M16 x 1
		in	4.72	4.49	1.93	
2	50	mm	146.0	140.0	58.0	M16 x 1
		in	5.75	5.51	2.28	
3	80	mm	235.0	215.0	105.0	M16 x 1
		in	9.25	8.46	4.13	
4	100	mm	281.0	215.0	129.0	M16 x 1
		in	11.06	8.46	5.08	

# Type 671 Spare Parts



ITEM	PART
1	Valve Body
2	Process Diaphragm
3	Compressor
4	Bearing Plate (only sizes 1/2-1")
4	Axial Needle Bearing (only sizes 1¼-2")
5	Bearing Plate (only sizes 1¼-2")
6	Optical Position Indicator
7	Indicator
10	Hand Wheel
15	Bonnet
18	Spindle Socket-Head
19	Bolt
20	Washer
21	Guide Piece
30	Hex. nut
32	Pin
33	Nut
40	Cap Lock (accessory)